

CLAIMS

WHAT IS CLAIMED IS:

1. A method for replacing a remote unit in a communication system,  
2 comprising:  
    installing a new remote unit in the place of a removed remote unit;  
4      receiving gain characteristics associated with the new remote unit;  
    receiving gain characteristics and attenuation parameters associated with  
6 the removed remote unit;  
    calculating attenuation values for the new remote unit based upon the new  
8 remote unit gain characteristics and the removed remote gain characteristics and  
attenuation parameters; and  
10      providing the calculated attenuation parameters to the new remote unit.
2. The method of claim 1, further comprising the step of determining that the  
2 new remote unit has been installed in the place of the removed remote unit.
3. The method of claim 2, wherein the step of determining that a removed  
2 remote unit has been replaced with a new remote unit in the communication  
system includes:  
4      sending a message to a location in the communication system where the  
remote unit was installed; and  
6      receiving a message from the new remote unit in response to the message  
sent to the location in the communication system where the removed remote unit  
8 was installed.
4. The method of claim 3, wherein the message sent is directed to a remote  
2 unit ID code.

5. The method of claim 3, wherein the message sent requests a unique remote  
2 unit identifier.

6. The method of claim 5, further comprising:  
2 the new remote unit sending a message in response to the request for the  
unique remote unit identifier.

7. The method of claim 6, wherein the determination that the removed remote  
2 unit has been replaced with the new remote unit is made by comparing the unique  
remote unit identifier within the message received from the new remote unit with  
4 the unique remote unit identifier associated with the removed remote unit.

8. The method of claim 1, further comprising:  
2 adjusting the attenuation for the new remote unit based upon the gain  
characteristics of the new remote unit, the gain characteristics of the removed  
4 remote unit and the calculated attenuation parameters of the removed remote unit.

9. The method of claim 8, further comprising:  
2 sending the processed IF attenuation parameters to the new remote unit; and  
the new remote unit setting its IF attenuators to the reported values.

10. The method of claim 1, wherein the recalled parameters are recalled from a  
2 master system unit.

11. The method of claim 10, wherein the master system unit further comprises  
2 memory with stored parameters from the removed remote unit, the stored  
parameters including:

4 gain characteristics and attenuation parameters from the removed remote  
unit;

6 a unique remote unit identifier assigned to the removed remote unit; and  
a remote unit ID code assigned to the removed remote unit.

12. The method of claim 8, further comprising:

2 determining new IF attenuation values for an IF forward link attenuator;  
determining new IF attenuation values for an IF reverse link attenuator; and  
4 sending the IF attenuation values to the new remote unit.

13. The method of claim 12, further comprising:

2 setting at least one attenuator in the new remote unit based upon the  
determined IF attenuation values.

14. The method of claim 12, wherein the determination of the new IF

2 attenuation value for the IF forward link attenuator further comprises:

4 recalling an attenuation value for the forward link IF attenuator of the  
removed remote unit;

receiving the forward-gain-zero value for the removed remote unit;

6 subtracting the forward-gain-zero value for the removed remote unit from  
the attenuation value for the forward link IF attenuator of the removed remote unit  
8 to determine a forward link differential value;

recalling a forward-gain-zero value for the new remote unit; and

10 adding the forward-gain-zero value for the new remote unit to the forward  
link differential value.

15. The method of claim 14, wherein the determination of the new IF  
2 attenuation value for the IF reverse link attenuator further comprises:  
recalling an attenuation value for the reverse link IF attenuator of the  
4 removed remote unit;  
receiving the reverse-gain-zero value for the removed remote unit;  
6 subtracting the reverse-gain-zero value for the removed remote unit from  
the attenuation value for the reverse link IF attenuator of the removed remote unit  
8 to determine a reverse link differential value;  
recalling a reverse-gain-zero value for the new remote unit; and  
10 adding the reverse-gain-zero value for the new remote unit to the reverse  
link differential value.

16. The method of claim 12, further comprising:  
2 storing the new IF attenuation values in a master system unit memory.

17. The method of claim 16, further comprising:  
2 the master system unit storing the new IF attenuation values in a remote  
unit table.

18. The method of claim 8, wherein the gain characteristics of the removed  
2 remote unit are recalled from a remote unit table.

19. The method of claim 18, wherein the remote unit table is located within a  
2 master system unit.

20. A method for replacing a remote unit in a communication system,  
2 comprising:

determining that a removed remote unit has been removed;  
 4 determining that a new remote unit has been installed in the place of the  
 removed remote unit;  
 6 recalling gain characteristics associated with the removed remote unit;  
 receiving gain characteristics from the new remote unit;  
 8 calculating IF attenuation parameters for the new remote unit; and  
 providing the calculated parameters to the new remote unit.

21. The method of claim 20, wherein the step of determining that a removed  
 2 remote unit has been replaced with a new remote unit in the communication  
 system includes:

4 sending a message to a remote unit ID code in the communication system  
 where the remote unit was installed; and  
 6 receiving a message from the new remote unit in response to the message  
 sent to the remote unit ID code in the communication system where the removed  
 8 remote unit was installed.

22. The method of claim 21, wherein the message sent requests a unique  
 2 remote unit identifier.

23. The method of claim 22, further comprising:

2 the new remote unit sending a message in response to the request for the  
 unique remote unit identifier;  
 4 comparing the unique remote unit identifier within the message received  
 from the new remote unit with the unique remote unit identifier associated with  
 6 the removed remote unit; and

8 determining that the removed remote unit has been replaced with the new  
remote unit.

24. The method of claim 20, further comprising:  
2 recalling gain characteristics attenuation parameters of the removed remote  
unit;  
4 receiving gain characteristics of the new remote unit;  
determining attenuation parameters of the new remote unit based upon the  
6 gain characteristics and attenuation parameters of the removed remote unit and the  
gain characteristics of the new remote unit; and  
8 sending the attenuation parameters to the new remote unit

25. The method of claim 20, wherein the recalled parameters are recalled from  
2 a master system unit.

26. The method of claim 24, further comprising:  
2 determining new IF attenuation values for an IF forward link attenuator;  
determining new IF attenuation values for an IF reverse link attenuator; and  
4 adjusting the parameters for the new remote unit based upon the determined  
IF attenuation values.

27. The method of claim 26, further comprising:  
2 setting at least one attenuator in the new remote unit based upon the  
determined IF attenuation values.

28. The method of claim 26, wherein the determination of the new IF  
2 attenuation value for the IF forward link attenuator further comprises:

recalling an attenuation value for the forward link IF attenuator of the  
4 removed remote unit;  
recalling a forward-gain-zero value for the removed remote unit;  
6 subtracting the forward-gain-zero value for the removed remote unit from  
the attenuation value for the forward link IF attenuator of the removed remote unit  
8 to determine a forward link differential value;  
receiving the forward-gain-zero value for the new remote unit; and  
10 adding the forward-gain-zero value for the new remote unit to the forward  
link differential value.

29. The method of claim 12, wherein the determination of the new IF  
2 attenuation value for the IF reverse link attenuator further comprises:

recalling an attenuation value for the reverse link IF attenuator of the  
4 removed remote unit;  
recalling a reverse-gain-zero value for the removed remote unit;  
6 subtracting the reverse-gain-zero value for the removed remote unit from  
the attenuation value for the reverse link IF attenuator of the removed remote unit  
8 to determine a reverse link differential value;  
receiving the reverse-gain-zero value for the new remote unit; and  
10 adding the reverse-gain-zero value for the new remote unit to the reverse  
link differential value.

30. The method of claim 26, further comprising:

2 the master system unit storing the new IF attenuation values.

31. The method of claim 30, further comprising:

2 the master system unit storing the new IF attenuation values in a remote  
unit table.

32. The method of claim 24, wherein the gain characteristics of the removed  
2 remote unit are recalled from a remote unit table located within a master system  
unit.

33. A system for replacing a remote unit in a communication system,  
2 comprising:  
a master system unit having a memory component;  
4 a new remote unit being electronically connected to the master system unit;  
and  
6 the master system unit memory component including stored parameters  
from a removed remote unit.

34. The system of claim 33, further comprising:  
2 the new remote unit having a memory component; and  
the new remote unit memory component including stored parameters from  
4 the removed remote unit.

35. The system of claim 34, wherein the master system unit and the new remote  
2 unit are electronically connected by a wire.

36. The system of claim 33, wherein the master system unit stored parameters  
2 further includes:  
gain characteristics from the removed remote unit;  
4 a unique remote unit identifier assigned to the removed remote unit; and





a remote unit ID code assigned to the removed remote unit.

37. The system of claim 33, wherein the master system unit stored parameters  
2 further includes:

IF attenuation values for an IF forward link attenuator;

4 IF attenuation values for an IF reverse link attenuator;

forward insertion loss value of the IF cable connecting the master system  
6 unit and the remote unit; and

reverse insertion loss value of the IF cable connecting the master system  
8 unit and the remote unit.

38. The system of claim 37, wherein the stored parameters for the master  
2 system unit are located in a remote unit table.